



# INDEXA

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A non-profit organization for the enhancement of amateur radio,  
worldwide peace, and friendship

Daily Information Session — 14.236 MHz @ 23:30z

## South Sudan (ST0R)—A New Entity!

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Every DXpedition organizer dreams of activating a new country. There is just something extra appealing and exciting about the newness of a new DXCC entity. Everyone wants and needs the new country and we all watch with great anticipation at the development of the new entity. Many of us were watching the development of the referendum in Sudan and the eventual secession of South Sudan from Sudan.

Sudan had a long and bloody civil



**ST0R team at the Juba Grand Hotel in Juba, South Sudan ready to give a new entity to the awaiting throng of amateur radio operators!**

war that ended in 2005. It is estimated that over 2 million people have died as a result of this civil war and that at least 4 million people became displaced or refugees as a result of the war. A cease fire was created in 2005 as part of a comprehensive peace agreement between forces in the north and in the south. South Sudan has a significant humanitarian situation with one of the worst health crises in the world. Both infant mortality rates and maternal mortality are the highest in the world. Health and Humanitarian non-governmental organizations (NGO's) are very evident in South Sudan and their challenges are enormous.

A referendum was held in January 2011 to determine if South Sudan should declare independence from Sudan. The result was that 98.8% of the population voted for independence. Watching these developments closely was Tony-EA5RM and myself. Tony and I had never met, but we had developed a friendship and level of respect for each other's DXpedition activity. Tony is the leader of the DX Friends/Tifariti Gang that has been so successful in Western Sahara, Rwanda and most recently in Palestine. Tony and I agreed that if South Sudan was to become a new country that our teams would work together and obtain a license for a DXpedition.

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## South Sudan (ST0R)—A New Entity! (con'd)

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### Obtaining the ST0R license

Amateur Radio has been common in Sudan. Many of us know and have worked Robert ST2AR who operates from Khartoum in the North. With the passing of the Referendum and the creation of the Government of South Sudan (GOSS), the soon to be new Capitol of South Sudan, Juba, would now be able to issue licenses. Once the referendum passed, we agreed that we would share all costs and that Tony-EA5RM would travel to Juba and try to obtain a license. Tony flew from Spain to Juba in March. He spent several days working with the Ministry of Communications and obtained the license of ST0R. The cost of the license was several thousand US dollars! Tony was also able to scout out several operating venues and ultimately selected the Juba Grand Hotel which turned out to be an ideal operating venue. Tony knew from his past experiences that reliable power, internet access and the ability for us to erect antennas were critical items. We knew that the ITU would likely assign a new prefix to South Sudan, so we did not publicize the call of ST0R because we anticipated having to amend the license upon our later arrival for the DXpedition. As this turned out, The GOSS had not yet applied to the ITU for a new prefix, so we could use the license issued to us as ST0R.

### Visas and Customs

Following Tony's visit to Juba, I traveled to Washington, DC to visit the soon to be Embassy of the Government of South Sudan. I met with the GOSS staff in their offices and discussed our proposed visit and the means by which we could obtain visas and import our equipment. The GOSS Staff was very friendly and welcoming. They were delighted that we wanted to visit Juba and to help them celebrate the birth of their new country. They told me that travel permits and importing our equipment would be "no problem". I asked if there was anything that we were prohibited in bringing to South Sudan. The Consulate officer paused for a moment and then said "Please don't bring any weapons or explosives—we have enough of these already". When I left the GOSS offices, I hoped that it would hold true that getting ourselves and our gear there would be "no problem" as those are usually some of the most complex issues when carrying out a DXpedition.

### The Planning

Tony-EA5RM and I led our planning and documentation initiative. Tony is a very experienced, world-class DXpeditioner and Contester. His team specializes in traveling very light, while carrying all of their gear on the airlines as checked luggage. They don't have to ship items ahead. My Intrepid-DX Group, on the other hand, typically ships our gear ahead of our arrival, often several thousand pounds of gear, at great cost. We typically bring too much equipment, tools etc which greatly adds to our costs. I was eager to learn from Tony's DX Friends to see how they travel in a light fashion and with great economy. This was to become a great partnership and I am very pleased and proud at how well the groups worked together to activate this new country.

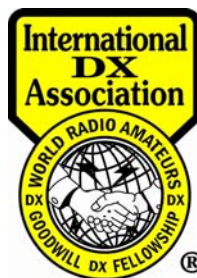
### The Team

The final team was comprised of Tony and myself as Co-Leaders. The DX Friends consisted of EA7AJR-Manolo, EA7KW-Jose Ramon, IN3ZNR-Fabrizio, RG8K-Valery and DH8WR-Andy. The Intrepid-DX Group consisted of myself, YT1AD-Hrane, K1LZ-Krassy, JH4RHF-Jun, RA9USU-Dmitri, K3LP-David and AH6HY-Dave. The DX Friends traveled together and each team member stayed in Juba for the entire DXpedition. The Intrepid-DX Group had some members participating in the first or second half of the DXpedition. The CW Operators were EA7AJR-Manolo, EA7KW-Jose, RG8K-Valery, YT1AD-Hrane, K1LZ-Krassy, JH4RHF-Jun,

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## South Sudan (ST0R)—A New Entity! (con'd)

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RA9USU-Dmimitri and K3LP-David. Roberto-EA2RY would develop our website and later design our QSL card.

Tony-EA5RM, Jun-JH4RHF and Andy-DH8WR made a substantial effort on RTTY and ultimately set a new DXpedition record for their number of QSOs. I could not have asked for a better, more enjoyable team of Operators. Each of these guys was just superb!

### Getting there

Surprisingly, getting to Juba, South Sudan is very easy from Europe. The DX Friends met in Madrid and traveled together to Cairo where they met with the Intrepid-DX Group. We all then traveled together on Egypt Airlines to Khartoum and then to Juba. Other team members flew Ethiopian Airways and arrived via Kenya.

### Customs SNAFU

It seems that many Dxpeditions have a customs story to tell, and we are no different. Despite our planning efforts well in advance of our visit, the Intrepid-DX Group experienced a customs headache in Cairo.

I was traveling with three Pelican cases containing an Acom amplifier, three radios, three power supplies, three laptop computers and various tools, cables and adapters. I arrived in Cairo at 1AM and I planned to relax for two nights before departing to Juba. The Cairo customs people seized upon my Pelican cases and inspected all of my gear. They told me that they would have to impound all of my equipment until my departure from their country. Over the course of several hours, they inventoried my equipment and opened some of it to look inside. They then gave me a receipt for my gear and told me to come back to Customs four hours before my departure from Cairo. Two days later, I arrived at the airport four hours early as instructed only to find no one from customs on duty. I had to wait several hours for the first Customs agent to release my equipment. Having traveled to Cairo in the past, I was well aware of the concept of "Baksheesh". Baksheesh ranges from a tip to a bribe, to an outright shake down depending on how you look at it. Over the next several hours, I would have to pay hundreds of dollars in Baksheesh to various Customs agents and their Supervisor in order to get my

gear released to me. I also had to pay Baksheesh to various Egypt Airlines employees to help me maneuver through the system and to make my flight on time. Indeed, traveling through Cairo can be very trying and expensive!

On July 22<sup>nd</sup>, the teams flew from Cairo, to Khartoum and then on to Juba. Upon arriving in Juba, one cannot help notice the differences from Cairo and Khartoum. Cairo and Khartoum are hot and arid. You are in the desert. The people around you are primarily Arabs speaking Arabic. In Juba, the landscape is lush and green. The climate is hot and humid. Nearly everyone is African and speaking primarily English. The Airport in Juba is small and cramped. It was built long ago and is not well suited for large passenger aircraft. In addition to human passengers, cargo consisting of pigs, goats, and chickens make their way through this small airport terminal. Fortunately, a new International Terminal is being built adjacent to the original airport. Juba is preparing for bigger and better things!



Having met our "Baksheesh" obligations (see text) in Egypt, all our gear accompanied us to Juba.

### Setting up

We decided to set up the CW/SSB and RTTY operations within the same room of the hotel. This would minimize the coax runs and to help hold our daily costs down. Each hotel room cost us \$220 USD per night. We placed the CW antennas behind the hotel structure, while the SSB antennas were placed on the other side of the building in an open

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## South Sudan (ST0R)—A New Entity! (con'd)



**The Juba Grand Hotel proved to be an ideal venue for ST0R.**

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court yard. This allowed for some separation of antennas. A six meter Yagi and an 80 meter vertical were placed on a tall structure supporting the hotel's water tanks. A 160 meter inverted L was placed adjacent to the 80 meter vertical antenna. A five-band SpiderBeam Yagi was placed in the central court yard and was shared alternatively between CW and SSB. A 540' beverage antenna facing north was also added.



**EA7KW, EA5RM, IN3ZNR and EA7AJR set up one of the Hex Beams for the CW operations**

Within several hours we were on the air and actively working European stations. As expected, we found that we could easily work Europe at any time of the

day or night. JA stations were also easy to work. All Middle East and Israeli stations were quite easy as you can imagine. Propagation to North America was more affected by the Grey Line. We had a much easier time working North America in the period before our sunrise and just after our sunset. Working the US West Coast proved to be quite a challenge. Dave-AH6HY and I generally found an opening to the West Coast between 4AM and 6AM our local time. The most difficult region to work from South Sudan was probably Australia and New Zealand. We often called for VK/ZL stations during the corresponding grey-line and we were glad to get VK/ZL stations in our logs.

During our first three to four days of operation, all of us were just amazed by the sizes of our pile ups! We all experienced pile ups of 40 KHz wide and larger during the initial days of activity. The sound of all those stations calling was just a huge roar. It took a lot of time and effort to whittle the pileups down to a more manageable size. Still, even into our third week of activity it was still common to have a pileup of 10-15 KHz wide. Just unbelievable!



**With antennas and rigs in place, Dimitri and Jose Ramon on CW, Tony on SSB and Andy on RTTY can really get down to business!**

Fabrizio-IN3ZNR placed schedule sheets in the shack each day, and we quickly fell into our rhythm. Some of our team members liked to operate all night, while others operated during the day. I par-

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## South Sudan (ST0R)—A New Entity! (con'd)

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ticularly enjoyed operating in the hours before our sunrise and again at our sunset and that was the best path to North America. I delighted in following the propagation all across the USA working from the East Coast, across the mid-west and ultimately to the West Coast. That was a lot of fun!



**As operations got into a rhythm, DXpedition co-leaders N6PSE and EA5RM finally could breathe a sigh of relief.**

We knew going to South Sudan that the power grid was unreliable. Fortunately, the hotel had their own diesel generators which ran 24x7 and produced all of our power. Several times a day they switched generators and we would have a brief loss of power. Usually, after 30-40 seconds we were back on the air, albeit at low power until our amplifiers could



**"Power central" at the Juba Grand Hotel served us quite well—running 24x7.**

warm up again. Fortunately our logging laptops had their own batteries and we never lost power on the logging systems.

We also experienced a lot of strange noises on the bands. We speculated that much of it was produced by our environment, which positioned various electrical equipment nearby to us. The Internet situation in Juba was also quite a problem. Our hotel used a satellite based internet connection that was very slow and full of latency. It only worked briefly and the bandwidth was very poor. This proved very challenging in uploading logs or keeping in touch with the outside world. The heat and humidity in Juba was also tough to endure. The temperatures in our shack became almost unbearable at times. Perhaps that is why many of the team members were so eager to operate during the night-time hours.

### Visit to the Ministry

Early in the DXpedition, Tony-EA5RM, Hrane-YT1AD and I traveled into town to visit the Undersecretary of the Ministry of Communications. He had issued Tony the license in March and we made a courtesy call to let him know that we had arrived and were starting our operations.



**EA5RM at the GOSS Ministry of Telecommunications.**

We invited the Undersecretary and his staff to visit our operations at the Juba Grand Hotel and we were delighted when a few days later, the Under-

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## South Sudan (ST0R)—A New Entity! (con'd)

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secretary and his Chief Engineer joined us at the hotel for a visit of our shack and a very cordial lunch in the hotel. We discussed their application to the ITU for their own prefix. The Undersecretary solicited our assistance in completing and reviewing their applications. The Undersecretary told me that he would like to obtain the prefix of SS for South Sudan if possible. In subsequent days, some of our team members would meet with the Ministry's staff again to further their ITU application process.



**The Undersecretary and his Chief Engineer look on as Fabrizio-IN3ZNR works EU stations.**

During the visit to our shack, The Undersecretary and the Chief Engineer observed Fabrizio-IN3ZNR operating all across Europe. They were fascinated that with very simple equipment and antennas we were able to talk to people all over the globe. They paused and watched Fabrizio operate in amazement as we told them each of the regions that he was working. They shared in our excitement as we worked through the pileups. At the end of our visit, we exchanged documents commemorating the first Amateur Radio DXpedition to South Sudan. We all took pictures together and had a great visit. The path has been paved for future amateur radio visits to South Sudan!

### Juba Youth Visit to ST0R

As is the practice and custom of the Intrepid-DX Group, we always try to expose the young people of the country we're visiting to our hobby, no matter where we visit. I was delighted to visit the Juba

Boy's Secondary Academy, which was just down the road from our hotel. I met with the headmaster and invited the boys to come and visit our shack. I was delighted when the headmaster informed me that he would arrange for 24 boys to come to visit our operations the very next afternoon. The boys from the



**Dave-K3LP operates on CW while the Juba Boy's Academy students look on.**

Juba Boy's Secondary Academy were delighted with their tour of our operations. They loved hearing all of the contacts coming out of the speaker and they asked over and over again where each of the callers was located. It was a great visit. We all took pictures together and had a great time.

### When will it count?

When activating a new DXCC entity, there is always that question: When will it count? South Sudan declared their independence on July 9<sup>th</sup>, 2011. On July 14<sup>th</sup>, they were admitted to the United Nations as a member state. While the ITU had not yet assigned a prefix, the UN admission satisfied the requirements for acceptance into the DXCC program. We were particularly delighted on August 5<sup>th</sup>, during the mid-point of the DXpedition when the ARRL's DXCC desk announced that the ST0R DXpedition would be accepted for DXCC credit.

### Where did the propagation go?

On August 6<sup>th</sup>, a large coronal mass ejection (CME) was released by the Sun. While the solar flux index

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(SFI) was 109, the A factor was 27 and the K factor was 6. Working Europe was still possible, but we heard few stations in North America for a few days. Later, on August 9<sup>th</sup>, an X7 Class Solar Flare was released as we were approaching 120,000 contacts in our logs. A CME emerged from the blast site and the bands became really difficult to work. This geomagnetic storm caused quite an impact to our propagation.

### DXpedition Statistics

#### Band/Mode breakdown

Band	PH	CW	RTTY	Total
160	4	675	0	679
80	486	2502	0	2988
40	1701	5785	884	8370
30		5402	2279	7681
20	15524	11964	4055	31543
17	11205	10038	4329	25572
15	10417	9580	4676	24683
12	4720	4803	1052	10575
10	3458	3971	857	8286
6	181	728	0	909
Totals	47696	55458	18132	121,286

### The South Sudanese

Several times during our DXpedition, members of the team went into Juba to buy supplies or stretch their legs. Each time, we found the South Sudanese to be very friendly and warm towards us. They openly expressed interest in us and were very welcoming. They told us that they were thankful that we had visited their country. We took the time to capture some of the flavor of our locale on our cameras.



Downtown Juba. (Photo by AH6HY)



Huts of this variety were quite common in Juba. Below, friendly children were everywhere. and all spoke English quite well. (Photo below by AH6HY)



## South Sudan (ST0R)—A New Entity! (con'd)



Pictured above is the QSL that will soon be appearing. We hope you were at least one among our 120,000+ contacts.

### Conclusion

In conclusion, our visit to South Sudan was very positive. We were safe at all times. Everyone was very friendly and gracious. The South Sudanese seemed to appreciate and welcome our visit. They took an interest in us and our activities. They were very accommodating to our every need. They have invited us to return and operate again. We hope to do that!

I would like to thank INDEXA for supporting this DXpedition. It is only through the support of organizations like INDEXA that a DXpedition such as this can be successful. I would also like to thank all of our Foundation, equipment, club, and individual sponsors for allowing us to make this DXpedition possible.

*Paul Ewing, N6PSE*

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